

Coursera Capstone

Final Report



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# Introduction

There are currently many beaches across the United States that are filled with unwanted human waste that causes real biological damage to the ecosystem. In this project, our aim is to create a valuable tool to help beachgoers understand where local trash repositories are and aim to clean up their personal mess.

Our stakeholders are beachgoers with an interest in conservation and this project aims to help these beachgoers find the proper means to dispose of their waste in these public venues. These stakeholders are children to young adults that care about the environment, most likely live in California, and adhere to the naturist motto of “leave no trace.” These users care about the problem of cleaning up trash because they are part owners of the environment and realize their responsibility in keeping nature clean for future generations.

To facilitate knowledge sharing we will be using the Foursquare API to look up nearby public trash and waste rooms to help beachgoers take care of their mess.

# Data

In this project we will leverage the Foursquare API to find local trash depots, restrooms, and private waste disposal venues nearby public beaches. We will be using the Foursquare API to locate the latitude and longitude of our beaches and look for nearby places using search queries for nearby venues.

For example, if a user is located at Hermosa Beach in California, then using the Foursquare API we will find and address coordinates to local waste bins at the beach restrooms, in the public parking lot or at nearby restaurants.

# Methodology

In this project we grab data from nearby the beach where we are located in. In the notebook you will see that Newport Beach Pier was selected as the index beach. In our notebook we convert the local address into latitude and longitude before creating a Foursquare search query.

Using the Foursquare API we take an open search across nearby venues to the beach. In this case we find several open venues that all should have trash centers. It is clear that the Foursquare API lacks information about public beach amenities.

# Results

It is clear that the Foursquare API is mostly used for private venues where users are incentivized to provide more information about businesses. We could improve the results of our application by doing web-scraping of public listed utilities and including them in our dataset.

# Conclusion

We conclude this project by stating that by beaches it is easier to look out for public trashcans than it is to use Foursquare API to look up public venues for trash or recycling. It is clear that due to the non-monetary nature of conservation resources that it would be advantageous to find alternative data sources for our application.